



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0947; Project Identifier MCAI-2021-00195-R; Amendment 39-21889; AD 2022-01-01]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Airbus Helicopters Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350D, EC130B4, and EC130T2 helicopters; AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters; and Model SA-365C1, SA-365C2, SA-365N, SA-365N1, AS-365N2, and AS 365 N3 helicopters. This AD was prompted a report of increased vibration during flight. This AD requires the application of alignment markings on, and repetitive inspections of, the main rotor (MR) pitch rod upper links and, depending on findings, the accomplishment of applicable corrective actions, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For EASA material incorporated by reference (IBR) in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find this material on the EASA website at <https://ad.easa.europa.eu>. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy.,

Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0947.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0947; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the EASA AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2021-0048, dated February 16, 2021 (EASA AD 2021-0048), to correct an unsafe condition for Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aérospatiale) Model AS 350 B, AS 350 BA, AS 350 BB, AS 350 B1, AS 350 B2, AS 350 B3, AS 350 D, EC 130 B4, and EC 130 T2 helicopters; Model AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N, and AS 355 NP helicopters; and Model SA 365 C1, SA 365 C2, SA 365 C3, SA 365 N, SA 365 N1, AS 365 N2, and AS 365 N3 helicopters; all serial numbers. Model AS 350 BB and SA 365 C3 helicopters are not certificated by the FAA and are not included on the U.S. type certificate data sheet; this AD therefore does not include those helicopters in the applicability.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus Helicopters Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350D, EC130B4, and EC130T2

helicopters; Model AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters; and Model SA-365C1, SA-365C2, SA-365N, SA-365N1, AS-365N2, and AS 365 N3 helicopters. The NPRM published in the *Federal Register* on October 29, 2021 (86 FR 59892). The NPRM was prompted by a report of increased vibration during flight. The NPRM proposed to require the application of alignment markings on, and repetitive inspections of, the MR pitch rod upper links and, depending on findings, the accomplishment of applicable corrective actions, as specified in EASA AD 2021-0048.

The FAA is issuing this AD to address loss of tightening torque of the screws connecting the MR pitch rods to the horns of the upper links. This condition, if not addressed, could result in loss of one or more MR pitch rod upper links, possibly resulting in loss of control of the helicopter. See EASA AD 2021-0048 for additional background information.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

EASA AD 2021-0048 requires the application of alignment markings on the screw, washer, nut, and horn on both sides of each MR pitch rod upper link, and repetitive visual inspections of the two alignment markings to determine if the markings are aligned on both sides. If, during any inspection the markings on one or both sides of

an MR pitch rod upper link are found misaligned, the additional actions and corrective actions include the following.

- Measuring the tightening torque value of the nut of the pitch rod upper link and adjusting the nut if it does not meet the specified criteria.

- Inspecting the pitch rod upper link to determine the condition of the bush (bushing) and spherical bearing and to determine if the cups are tight (paint mark in place), and measuring the play. If there is seizing, carbide chips, or the cups are loose (paint mark not in place), the corrective actions include replacing the spherical bearing. If the play measurement is greater than the specified measurement the corrective action is replacing the rod end fitting. Additional actions include checking the bonding and condition of the retaining ring and inspecting the pitch rod bodies for evidence of any impact, scratch, strike, or corrosion.

- Inspecting the pitch rods for chipped finish paint, scratches, impacts, and cracking, and measuring the play. If paint is chipped the corrective action is repair (sanding the affected area and applying touch-up primer and paint). If there is any scratch, an impact with a depth equal to or greater than the specified measurement, or any crack, the corrective action is replacing the pitch rod. If the play measurement is greater than 0.25 mm or there is cracking, the corrective action is replacing the spherical bearing. An additional action, if a helicopter was involved in an incident, is inspecting the straightness of the rod body “R” and replacing the pitch rod if the straightness of the rod body is greater than 0.5 mm.

- Inspecting the pitch horn for any evidence of impact, scratch, corrosion, chipped paint, cracking, and any elongated attachment hole; and inspecting the bonding of the retaining ring and measuring dimension “X” of the retaining ring. If there is any evidence of impact, scratch, or corrosion, and the depth meets the specified criteria, the corrective actions include touching up the affected area with an abrasive cloth and applying a protective coating and a coat of primer. If there is any cracking, elongated attachment hole, or the impact, scratch, or corrosion depth exceeds the specified criteria, the corrective action is replacing the pitch horn. If paint is chipped the corrective actions include sanding the affected area and applying touch-up primer and paint. If the retaining

ring has debonded the corrective action is to rebond the retaining ring. If dimension “X” of the retaining ring exceeds the specified criteria, the corrective action is replacing the retaining ring.

- Measuring the geometry of “G” of the pitch horn and replacing the pitch horn if the dimension is not within the specified range.

- Installing new split pins, nuts, washers, and a screw on the pitch rod upper link.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 1,266 helicopters of U.S. Registry. The FAA estimates the following costs to comply with this AD.

Estimated costs*

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	0.50 work-hour X \$85 per hour = \$42.50 per inspection cycle.	\$0	\$42.50 per inspection cycle.	\$53,805 per inspection cycle.

* The FAA has determined that application of alignment markings would take a minimal amount of time at a nominal cost.

The FAA estimates the following costs to do any necessary actions that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need these actions:

On-condition costs*

Action	Labor cost	Parts cost	Cost per product
Screw, Washer, Nut, and Split Pin Replacement	1 work-hour X \$85 per hour = \$85	\$40	\$125
Spherical Bearing Replacement	4 work hours X \$85 per hour = \$340	\$500	\$840
Pitch Rod Replacement	4 work hours X \$85 per hour = \$340	\$3,000	\$3,340
Pitch Horn Replacement	16 work hours X \$85 per hour = \$1360	\$4,000	\$5,360

* The FAA has determined that “repair” of chipped paint would take a minimal amount of time at a nominal cost.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-01-01 Airbus Helicopters: Amendment 39-21889; Docket No. FAA-2021-0947; Project Identifier MCAI-2021-00195-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Airbus Helicopters helicopters, certificated in any category, identified in paragraphs (c)(1) through (3) of this AD, all serial numbers.

(1) Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350D, EC130B4, and EC130T2 helicopters.

(2) Model AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters.

(3) Model SA-365C1, SA-365C2, SA-365N, SA-365N1, AS-365N2, and AS 365 N3 helicopters.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6200, Main Rotor System.

(e) Unsafe Condition

This AD was prompted by a report of increased vibration during flight on an Airbus Helicopters Model AS 365 helicopter. Subsequent investigation found a total loss of tightening torque of one screw connecting the main rotor (MR) pitch rod to the horn of its upper link, which led to abnormal wear of the screw and consequently increased the vibrations coming from the MR control chain to the pilot's flight controls. The FAA is issuing this AD to address loss of tightening torque of the screws connecting the MR pitch rods to the horns of the upper links. The unsafe condition, if not addressed, could result in loss of one or more MR pitch rod upper links, possibly resulting in loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2021-0048, dated February 16, 2021 (EASA AD 2021-0048).

(h) Exceptions to EASA AD 2021-0048

(1) Where EASA AD 2021-0048 requires compliance in terms of flight hours, this AD requires using hours time-in-service.

(2) Where EASA AD 2021-0048 refers to its effective date, this AD requires using the effective date of this AD.

(3) Where the service information referenced in EASA AD 2021-0048 specifies discarding parts, this AD requires removing those parts from service.

(4) This AD does not mandate compliance with the "Remarks" section of EASA AD 2021-0048.

(5) Where a work card in the service information referenced in EASA AD 2021-0048 specifies returning a part to the manufacturer, this AD does not include that requirement.

(6) For Model AS350 helicopters: For the visual inspection of the pitch rod upper link, where a work card in the service information referenced in EASA AD 2021-0048 specifies to do an inspection of a pitch rod body for any dent, impact, scratch, or corrosion, and any dent, impact, scratch, or corrosion is found, this AD requires replacing the pitch rod before further flight.

(7) For Model AS355 helicopters: For the visual inspection of the pitch rod upper link, where a work card in the service information referenced in EASA AD 2021-0048 specifies to do an inspection of a pitch rod body for any impact, scratch, strike, or corrosion, and any impact, scratch, strike, or corrosion is found, this AD requires replacing the pitch rod before further flight.

(8) For Model SA365 helicopters: For the visual inspection of the pitch rod upper link, where a work card in the service information referenced in EASA AD 2021-0048 specifies to “check bonding and state retaining ring on the pitch rods,” and any discrepancy (e.g., disbonding) is found and no corrective action is specified, before further flight, contact the Manager, General Aviation & Rotorcraft Section, International Validation Branch FAA; or EASA; or Airbus Helicopters’ EASA Design Organization Approval (DOA); for approved corrective actions, and accomplish those actions before further flight. If approved by the DOA, the approval must include the DOA-authorized signature.

(9) For Model SA365 helicopters: For the visual inspection of the pitch horn, if any discrepancy (corrosion, scratch, impact, crack, or debonded retaining ring) is found during the inspection of the pitch horn and there is no corrective action specified in the work card in the service information referenced in EASA AD 2021-0048, before further flight, contact the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or EASA; or Airbus Helicopters’ EASA DOA; for approved corrective actions, and accomplish those actions before further flight. If approved by the DOA, the approval must include the DOA-authorized signature.

(10) For Model AS365 helicopters: For the visual inspection of the pitch horn, where a work card in the service information referenced in EASA AD 2021-0048

specifies to do a dye penetrant inspection “if in doubt,” this AD requires doing a dye penetrant inspection.

(11) For Model AS350 and EC130 helicopters: Where a work card in the service information referenced in EASA AD 2021-0048 refers to “the pitch change lever,” for this AD, that term is equivalent to “pitch horn.”

(i) No Reporting Requirement

Although the service information referenced in EASA AD 2021-0048 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Special Flight Permit

Special flight permits, as described in 14 CFR 21.197 and 21.199, are prohibited.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2021-0048, dated February 16, 2021.

(ii) [Reserved]

(3) For EASA AD 2021-0048, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find the EASA material on the EASA website at <https://ad.easa.europa.eu>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. This material may be found in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0947.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on December 21, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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